Title (en)

RESONANCE ENGINE

Title (de)

RESONANZMOTOR

Title (fr)

MOTEUR A RESONANCE

Publication

EP 2512919 A1 20121024 (EN)

Application

EP 10798371 A 20101215

Priority

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Abstract (en)

[origin: GB2476380A] A resonance engine comprises a driver plate 12, to which is coupled to at least one oscillatory transducer 14, and a drive signal generator connected to the oscillatory transducer for excitation thereof. A first spring-mass resonator has a first natural resonant frequency, a proximal end attached to the driver plate 12, a free distal end and a reaction means attached to the driver plate 12 opposite to the first spring-mass resonator. When the oscillatory transducer 14 is excited by a drive signal from the generator having a component at or close to said natural resonant frequency, the first spring-mass resonator oscillates at resonance, substantially in anti-phase to the driver plate 12. Small vibrational strains in the oscillatory transducer 14 are converted to large strains of controllable kinematic movements. The resonance engine may be used in nano air vehicles (10f, fig 10), wherein at least one spring-mass resonator is fitted with a wing (RD, LD) capable of producing thrust by flapping in an insect like kinematic manner. The resonance engine may have components made of piezoelectric composite materials.

IPC 8 full level

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CPC (source: EP GB KR US)

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